

YEMEL'YANTSEV, T.M.; KRAVTSOVA, A.I.

Some data on the results of studies of Paleozoic sediments on the
left bank of the lower Lena Valley. Inform.blul.NIIGA no.14:19-24
'59. (MIRA 13:7)

(Lena Valley--Geology, Stratigraphic)

YEMEL'YANTSEV, Tikhon Matveyevich; KRAVTSOVA, Aleksandra Ivanovna; FUK, Pinkhos Solomonovich; GRAMBERG, I.S., nauchnyy red.; DAYEV, G.A., vedushchiy red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Geology. and oil and gas potentials of the lower Lena Valley]
Geologiya i perspektivy neftegazanosnosti nizov'ev r. Leny.
Leningrad. Gos.nauchn.-tekhn. izd-vo nefti i gorno-toplivnoi
lit-ry. Leningr. otd-nie, 1960. 143 p. (Leningrad. Nauchno-
issledovatel'skii institut geologii Arktiki. Trudy, vol. 108)
(Lena Valley--Petroleum geology) (MIRA 13:2)
(Lena Valley--Gas, Natural--Geology)

YEMEL'YASHENKOV, A.I., assistant

An effective approach to the subpectoral fascial cellular space
[with summary in English]. Khirurgiya 33 no.11:89-93 N '57.

(MIRA 11:2)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii
(zav. - prof. V.V.Kovanov) I Moskovskogo ordean Lenina meditsin-
skogo instituta imeni I.M.Sechenova.

(THORAX, surg.

technic of incision of subpectoral fascial cellular
space (Rus))

YEMEL'YASHENKOV, A.I., Cand Med Sci---(diss/ "Fascia and cellular ^{space}
space of the brachial belt." Mos, 1958. 13 pp (First Mos Order of
Lenin Med Inst in I.M. Sechenov), 200 copies (XII, 22-53, 114)

-164-

~~YEMEL'YASHENKOV, A.I.~~ (pos. Novo-Khovrino, Khimkinskogo r-na, Moskovskoy
obl., ul. Voroshilova, d.1).

Selection of contrast media for injections into fasciocellular spaces.
Arkh.anat.,gist. 1 embr. 35 no.5:116-117 S-0 '58 (MIRA 11:12)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomii (zav.
prof. V.V. Kovanov) 1-go Moskovskogo meditsinskogo instituta imeni
I.M. Sechenova.

(CONTRAST MEDIA,
selection for inject. into fascio-cellular spaces
(Rus))

RASSALYKH, D.A.; YEMEL'YASHENKOY, A.I.

Meeting of directors of institutions of higher education and
of institutes of advanced training for physicians under the Ministry
of Public Health of the R.S.F.S.R. Zdrav. Res. Feder. 3 no.5:41-44
My '59. (MIRA 12:7)

(MEDICINE--STUDY AND TEACHING)

YEMEL'YASHENKOV, A.I.; SHUMAKOV, V.I.

Selection of effective surgical approach to the anterior and
posterior surfaces of the left heart. Vest.khir. 84 no.1:
32-36 Ja '60. (MIRA 13:10)

(HEART--SURGERY)

BORISHCHEV, K.V.; YEMETS, D.V.; BLAZHEVICH, P.V.; PRVZNER, A.S., zav.
redaktsiyey izd-va; OSENKO, L.M., tekhn.red.

[Uniform time and pay standards for construction, assembly, and repair operations in 1960] Edinye normy i rastsenki na stroitel'nye, montazhnye i remontno-stroitel'nye raboty, 1960 g. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materiam. Sbornik 5. [Making and assembling steel construction elements] Montazh i izgotovlenie stal'nykh konstruktsii. No.5. [Making steel construction elements] Izgotovlenie stroitel'nykh stal'nykh konstruktsii. 1960. 54 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Normativno-issledovatel'skaya stantsiya No.5 (NIS-5) Ministerstva stroitel'stva RSFSR (for Borishchev, Yemets). (Steel, Structural) (Wages)

YEMETS, G.A., kand.tekhn.nauk

Concentrate batcher. Zhivotnovodstvo 24, no.9:86-87 S '62. (MIRA 15:12)
(Cows—Feeding and feeds)

Y E M E D 1 5 1 .

MITEL'MAN, Yu.N.; YEMETS, G.L.

Synovial of the knee joint. Ortop., travm.i protex. 21
no.1:76-78 Ja '60. (MIRA 13:12)
(SINOVIAL MEMBRANES--TUMORS) (KNEE--TUMORS)

FUDEL'-OSIPOVA, S.I. [Fudel'-Osypova, S.I.]; YEMETS, G.L. [IEmets', H.L.];
BURICHENKO, A.V. [Burychenko, A.V.]

Electrophysiological and histomorphological characteristics of
joint receptors. Fiziol. zhur. [Ukr.] 7 no.2:197-207 Mr-Apr '61.
(MIRA 14:4)

1. Laboratory of Physiology and Pathomorphology of the Kiev Institute
of Orthopedics and Traumatology.
(JOINTS—INNERVATION)

FUDEL'-OSIPOVA, S.I.; YEMETS, G.L.; BURICHENKO, A.V.

Afferent innervation of the capsule of the knee joint. Ortop.
travm.i protez. 22 no.1:31-37 Ja '61. (MIRA 14:5)

1. Iz fiziologicheskoy i patomorfologicheskoy laboratorii Ukrainskogo
nauchno-issledovatel'skogo instituta ortopedii i travmatologii v
Kiyeve (dir. - dotsent I.P.Alekseyenko, nauchnyy rukovoditel' -
chlen-korrespondent AMN SSSR prof. F.R.Bogdanov). Adres avtorov:
Kiyev, ul.Vorovskogo, d.27, Institut ortopedii i travmatologii.
(KNEE--INNERVATION)

BOGDANOV, F.R., prof. (Kiyev 25, Vladimirska ul., d.9, kv.10);
FINOGENOV, S.N., prof.; YEMETS, G.L., starshiy nauchnyy
sotrudnik

Physical methods of treatment in metal osteosynthesis of
long tubular bones. Ort. travm. i protez. 23 no.10:17-22 O '62.

(MIRA 17:10)

1. Iz Ukrainskogo instituta ortopedii i travmatologii (dir.-
dotsent I.P. Alekseyenko, nauchnyy rukovoditel' - prof. F.R.
Bogdanov). 2. Chlen-korrespondent AMN SSSR (for Bogdanov).

BUZANOV, I.F.; SAMBUROV, V.I.; YEMETS, G.M.; ORLOVSKIY, N.I.;
NEGOVSKIY, N.A.; FEDOROV, A.I.; GREKOV, M.A.; KUREATOV,
S.T.; MEL'NICHUK, A.N.; TONKAL', Ye.A.; GORNAYA, V.Ya.;
ROZHDESTVENSKIY, I.G.; SIDOROV, A.A.; KUDARENKO, F.F.;
BROVKINA, Ye.A.; GELLER, I.A.; DOBROTVORTSEVA, A.V.;
VARSHAVSKIY, B.Ya.; KUTSURUBA, N.V.; KUZ'MICH, S.I.;
PRESNYAKOV, P.V.; USHAKOV, A.F.; SHEVCHENKO, V.N.;
KHUCHUA, K.N.; PETRUKHA, Ye.I.; POZHAR, Z.A.; SHAPOVALOV,
P.T.; AREF'YEV, T.I.; GRIGOR'YEVA, A.I., red.; BALLOD,
A.I., tekhn. red.

[Sugar beets] Sakharnaia svekla. Moskva, Sel'khozizdat,
1963. 487 p. (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sa-
kharnoy svekly. 2. Nauchnyye sotrudniki Vsesoyuznogo
nauchno-issledovatel'skogo instituta sakharnoy svekly
(for all except Grigor'yeva, Ballod).
(Sugar beets)

SHPAK, I.S.; YEMETS, G.M.

Accumulation of moisture in the 1.5-meter soil layer in the forest-steppe zone of the Ukraine. Trudy UkrNIGMI no.37:42-57 '63.
(MIRA 17:3)

1. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskii institut (for Shpak). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy svekly (for Yemets).

YFMETS, I.A. (Odessa)

Complex preparation of cars for the transportation of farm produce.
Zhel.dor.transp. 47 no.4:56-59 Ap '65.

(MIRA 18:6,

1. Zamestitel' nachal'nik Odessko-Kishinevskoy dorogi.

L 39994-66 ENT(1) GW

ACC NR: AP6015404

(N)

SOURCE CODE: UR/0375/65/000/012/0057/0062

AUTHOR: Yemets, K. A. (Candidate of naval sciences, Commander); Korneyev, Yu. N.
(Docent, Candidate of naval sciences, Captain)

ORG: none

TITLE: Direct analytic solution of isoline equations for heavenly bodies at the same height

SOURCE: Morskoy sbornik, no. 12, 1965, 57-62

TOPIC TAGS: astronomic data, computer application, ship navigation

ABSTRACT: The use of computers in processing data for determining the height of celestial bodies makes it possible to replace tabular methods with direct solutions of simultaneous equations of height isolines. Two methods adapted for computers are set forth. The first, a direct substitution method, has the disadvantage that its accuracy is subject to systematic errors directly proportional to the longitude of the place of observation and inversely to the declination of the observed body. The second is a transformation method and requires that sightings be taken at several points along the horizon. The latter method has the advantage of minimizing systematic observation errors. Orig. art. has: 33 formulas, 1 table.

SUB CODE: 17,03/

SUBM DATE: none/

ORIG REF: 003/

OTH REF: 001

Card 1/1 11b

ADDRESS: N. N. P. AR. 04.7533

L 1554-66 EWT(d)/EWP(e)/EWT(m)/EWP(w)/EPF(c)/EWP(i)/EWA(d)/EWP(v)/EWP(j)/T/EWP(t)/
EWP(k)/EWP(h)/EWP(z)/EWP(b)/EWP(l)/ETC(m) IJP(c) MJW/EW/JD/WJ/HW/JQ/DJ/GS/RM
ACCESSION NR: AT5020442 UR/0000/65/000/000/0188/0194

AUTHORS: Vasil'yev, I. V.; Yemets, L. F.

TITLE: New sintered metal antifriction materials for friction junctions

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya smazochnogo
deystviya i novyye materialy (Theory of lubricating action and new materials).
Moscow, Izd-vo Nauka, 1965, 188-194

TOPIC TAGS: sintered metal material, solid lubricant, teflon/ MF 7 friction
apparatus, 1Kh18N9T steel

ABSTRACT: The wear and antifriction properties of sintered metal materials
consisting of matrices of low-carbon steel (0.1-0.2 mm spherical powder, compressed
at 2 t/cm², baked at 1200C), stainless steel 1Kh18N9T powder pressed at 2 t/cm²,
baked at 1000, 1100, 1200C for 1.3 and 5 hours), bronze (0.2-0.3 mm powder mixed
with filler pressed at 1.5, 3.4 and 5 t/cm², baked at 850C for 5 minutes) and
nickel (0.4-0.2, 0.3-0.4, 0.16-0.2 mm powder pressed at 1, 1.5 and 3 t/cm², baked
at 1100 C for 1 hour), unsaturated and vacuum saturated with teflon, were
investigated on friction apparatus MF-7 at a load of 20 kg/cm² and 0.03 m/sec.

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L 1554-66

ACCESSION NR: AT5020442

4
It was found that the wear of low carbon steel and nickel-based materials was very high, while bronze and stainless steel materials gave similar wear and friction results with teflon saturated matrices giving vastly improved characteristics: bronze-wear - 0.0001-0.0035 gm/hr, coefficient of friction 0.01-0.05 for teflon saturated vs 0.18-0.22 and 0.28-0.32 for unsaturated; steel-- 6×10^{-5} -0.08 and 0.01-0.09 saturated vs 0.09-0.22 and 0.22 unsaturated. Bearing tests conducted in 30 and 60% nitric acid and in 1% caustic soda solution showed that saturated 1Kh18N9T material on chrome-plated 1Kh18N9T surface and saturated bronze on 1Kh18N9T gave best results respectively. End seals operating in 30% nitric acid showed least wear and friction when made of saturated 1Kh18N9T material rubbing against a chrome surface. Orig. art. has: 4 tables.

ASSOCIATION: none

SUBMITTED: 22May65

ENCL: 00

SUB CODE: FP, MA

NO REF SOV: 000

OTHER: 000

Card 2/2

AUTHORS: Kurochkin, B.N., Simonov, Ye.I., Kalashnikov, L.A.,
Yemets, L.K. and Zelenskiy, V.D. ^{SOV/133-59-5-7/31}

TITLE: Operation of Open-hearth Furnaces on Natural Gas
(Rabota martenovskikh pechey na prirodnom gaze)

PERIODICAL: Stal', 1959, Nr 5, pp 407 - 413 (USSR)

ABSTRACT: At the end of 1957, two works were operating open-hearth furnaces on natural gas with a pressure of 1 and 10 atm., respectively. The investigation carried out by VNIIMT on these furnaces indicated that the gas pressure, the nature and pressure of the atomising medium, the rate of consumption of the carburising medium and some other factors have a considerable influence on the efficiency of utilisation of natural gas as an open-hearth fuel. When the Libknekht Works started operation on natural gas, its pressure was fired at 2.5 - 3.0 atm. A study of the thermal operating conditions of a 185-ton furnace with air or steam as atomising agents for the carburising oil (up to 30%) was carried out. For comparison a preliminary investigation of the furnace operation when fired with fuel oil was made. Characteristic features of furnace

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SOV/133-59-5-7/31

Operation of Open-hearth Furnaces on Natural Gas

design are given (Figure 1). Standard operating conditions when firing with oil are shown in Table 1 and a comparison of operating indices with oil and natural gas in Tables 2 and 5. The dependence of the mean flame radiation on the rate of consumption of oil (for oil-firing) - Figure 5 and the dependence of the radiation of the oil flame on the type of atomising agent - Figure 6; the above two relationships for gas-oil flame are shown in Figures 7 and 8, respectively. Recommended thermal conditions of furnace operation on firing with natural gas are given in Table 3. It was found that on transferring from oil to natural-gas firing, the productivity of the furnace did not decrease and the consumption of fuel somewhat decreased. In view of a strong influence of the rate of consumption and pressure of the atomising agent on radiation characteristics of the flame, the determination of rational values for the above parameters is necessary in each individual case. On transferring furnaces to natural-gas firing, the above presents the main problem.

Card2/3

Operation of Open-hearth Furnaces on Natural Gas ^{SOV/133-59-5-7/31}

There are 8 figures and 5 tables.

ASSOCIATIONS: VNIIMT, Zavod im. K. Libknekhta (imeni
Libknekht Works)

Card 3/3

USSR / Diseases of Farm Animals. Diseases Caused by Protozoa.

R

Abs Jour : R f Zhur - Biol., No 22, 1958, No 101357

Authors : Kolomiets, Yu. S.; Alifimova, A. V.; Yomots, M. I.

Inst : Ukrainian Scientific Research Institute of Experimental
Veterinary Medicine.

Title : The Diagnosis of Trichomoniasis in Cattle.

Orig Pub : Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t eksperim. vete-
rinarii, 1957, No. 3, 19-21.

Abstract : Comparative studies of microscopic and culture methods in
which washings from vaginal mucosa and prepuceal sacs were
examined in order to establish the presence of trichomonias-
is, proved that the culture methods are considerably sup-
erior. Allergic reactions were also tested. The water ex-
tract from centrifugally dried trichomonads of the culture
broth was used as allergen. The allergen was intracuta-
neously injected in a 0.5 ml. dose into the shoulder blade

Card 1/2

USSR / Diseases of Farm Animals. Diseases Caused by Protozoa.

R

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 101357.

area. After 1 - 3 hours, the skin fold thickened in animals suffering from trichomoniasis by 5 mm. and more, and edema developed at the site of the allergen injection which covered an area of 30 x 40 mm. In healthy animals, thickening of the skin fold did not exceed 4 mm. and edema was absent. --
I. Y. Panchenko.

Card 2/2

20

USSR/Diseases of Farm Animals - Diseases Caused by Protozoa

R

Abs Jour : Ref Zhur Biol., No 5, 1959, 21432

Author : Koloniyets, Yu.S., Alfinova, G.V., Yanets, M.I.

Inst : -

Title : The Diagnosis of Trichomoniasis in Cattle.

Orig Pub : Sots. tvarinnitstvo, 1958, No 2, 49-51

Abstract : The microscopic cultural and allergic methods of diagnosing the disease are described. The allergic method proved to be best. Allergen was intracutaneously injected in a 0.5 ml dosage.

Card 1/1

YEMETS, N.

Rural library and the dissemination of advanced practices. ~~Number 1~~
pered.op. v sel'khoz. 8 no.11:67-68 N '58. (MIRA 11:12)

1. Zaveduyushchiy Akhtyrskoy rayonnoy bibliotekoy Sumskoy oblasti.
(Agricultural extension work) (Akhtyrka District--Libraries, Rural)

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APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962630008-6"

YEMETS, N. P.

USSR/Physical Chemistry - Molecules. Chemical Bonds.

B-4

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14384

Author : V. V. Zelinskiy, N. P. Yemets, V. P. Kolobkov, L. G. Pikulik

Inst : -

Title : Investigation of the capacity of complex organic molecules to fluoresce and phosphoresce

Orig Pub: Izv. AN SSSR, ser. fiz, 1956, 20, No 5, 507-513

Abstract: An investigation was made of the dependence of the probability of non-radiating transitions of excited molecules (from the unstable level to the metastable level r , from the unstable to the basic without q radiation, from the metastable to the basic with π radiation, and from metastable to the basic without radiation q_2) on the temperature, solvent and molecule structure. Probability of r is apparently only weakly dependent on temperature. Probability q_2 changes little with temperature for some organic compounds while for

Card 1/2

** NAME per MIRA card.*

USSR/Physical Chemistry - Molecules. Chemical Bonds.

B-4

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14384

Abstract: others there is a noticeable damping of phosphorescence as a function of temperature. In neutral and weakly polar solvents, the r probability is small for a majority of compounds. There is a noticeable increase in r probability in polar solvents and a particularly great increase in solvents containing in their molecular composition the atom Br. Depending on the molecular structure and the properties of the solvent the r probability may vary very greatly. The controlling influence on q_1 probability is the distance between the basic and the excited levels. In related compounds (phthalimides) the influence of the structure properties and specific action of the solvent are of lesser importance. If the fluorescence spectra coincide for few solvents of a given substance, then the quantum yields are the same. The quantum yield relations of phosphorescence and fluorescence of the substituting phthalimides in various solvents are tabulated.

Card 2/2

YEMETS, P.M., inzh.; SKVARIK, V.P., kand. tekhn. nauk, dotsent;
SHVARTSMAN, G.A., inzh.

Calculation of stresses in transport with roller feeding.
Izv. vys. ucheb. zav.; tekhn. leg. prom. no.3:123-131 '63.
(MIRA 16:7)

1. Kiyevskiy tekhnologicheskoy institut legkoy promyshlennosti.
Rekomendovana kafedroy teoreticheskoy mekhaniki, teorii
mekhanizmov i mash'n.
(Shoe machinery)

h1861

S/143/62/000/008/003/004
I011/I242

26 1122
AUTHOR:

~~Yemochka~~ P.P., Engineer

TITLE:

An experimental setup for the measurement of pressure
on the working blades of a rotating turbine.

PERIODICAL:

Energetika, no. 8, 1962, 109-112

TEXT:

The setup consists of a compressor, a hydraulic
brake, an air turbine, and a simple and reliable measuring device.
The experimental air turbine has a directing structure with an
average diameter of 302 mm and nozzle height of 6 mm. The nozzles
are placed round all the circumference. The working disc is sepa-
rable to simplify the installation of the pulse pipes from the

Card 1/3

S/143/62/000/008/003/004
I011/I242

An experimental setup....

drained blades to the hollow shaft of the measuring device. The measuring device is displaced along the hollow shaft by a screw rotated through a reduction gear by a 0.25 kW electric motor. The pressure at the selected point on the blade is transmitted through a hole by a pulse tube to a ball valve on the shaft. When the valve is in the center of the measuring chamber it is pressed downward by a sleeve and the pressure is transferred through the chamber to a manometer. One blade was assigned to each measuring point. All the drained blades were placed in succession or separated by undrained blades in the rotating structure to permit the measurement of the average, minimum, and maximum pressures at each point. Three cylindrical cross sections on the blades were selected, with 15 measuring points on each cross-section periphery. There are 4 figures.

Card 2/3

S/143/62/000/008/003/004
I011/I242

An experimental setup...

ASSOCIATION: Novocherkasskiy ordena Trudovogo Krasnogo Znameni
politekhnikheskiy institut imeni S. Ordzhonikidze
(Novocherkassk Order of the Red Banner of Labour
Polytechnic Institute Im. S. Ordzhonikidze)

PRESENTED: by the Chairs of Thermal Energy Equipment of Electric
Power Stations and of Theoretical and General Heat
Engineering

SUBMITTED: January 6, 1962

Card 3/3

X

YEMITS, P.F., inzh.

Experimental system for measuring pressure on the rotor blades of a rotating turbomachine. Izv. vys. ucheb. zav.; serg. 5 no. 8:109-112 Ag '62. (MIRA 17:7)

1. Novocherkasskiy ordena Trudovogo Kraanogo Snameni politekhnicheskiiy institut imeni S.Ordzhonikidze. Predstavlya kafedrami teploenergeticheskikh ustanovok elektricheskikh stantsiy i teoreticheskoy i otkrytoy teploekhniki.

YEMETS, Petr Pavlovich, starshiy prepodavatel'

Use of an electronic automatic balancing EMD-type bridge in
pressure measurements. Izv. vys. ucheb. zav.; elektromekh. 6
no.5:631-633 '63.. (MIRA 16:9)

1. Kafedra teploenergeticheskikh ustanovok elektricheskikh
ustanovok Novocherkasskogo politekhnicheskogo instituta.
(Turbines—Measurement) (Electronic measurements)

1-57085-15 SPR/EPA(bb)-2/T-2/DWP(f)

0101-4 '65 '000 /004 /0-105 /0009

... the surface of a rotor blade of a ...

SOURCE. Energomashinostroyeniye, no. 4, 1965, 5-8

TOPIC TAGS turbine turbine efficiency turbine power

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SECRET

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962630008-6"

YEMETS, S.P.

Evaluating field crop wintering conditions. Meteor. i gidrol.
no.2:15-19 F '53. (MLRA 8:9)

1. UGMS Ukrainskoy SSR, Kiyev.
(Field crops) (Plants--Frost resistance)

YEMETS, V.

What aid do we want. Sots. trud 7 no.11:66-68 N '62. (MIRA 15:12)

1. Nachal'nik otдела rabochikh kadrov, truda i zarabotnoy platy
Odesskogo soveta narodnogo khozyaystva.
(Odessa Province—Labor and laboring classes)

TKACHUK, Grigoriy Ivanovich [Tkachuk, H.I.], Geroy Sotsialisticheskogo
Truda; Prinimali uchastiye: YEMETS', V.G. [IEmets', V.H.];
LOTNIKOV, R.S.; GARKUSHA, V.Ye. [Harkusha, V.IE.], red.;
CHEREVATSKIY, S.A. [Cherevats'kyi, S.A.], tekhn. red.

[How we fatten and finish livestock] Iak my vidhodovuiemo i do-
roshchuiemo khudobu. Kyiv, Derzhsil'hospvydav URSR, 1961. 77 p.
(MIRA 16:2)

1. Deputat Verkhovnogo Soveta SSSR (for Tkachuk).
(Stock and stockbreeding)

L 14710-66 EWT(1)/EWP(m)/EWA(d)/T-2/ETC(m)-6/EWA(1) IJP(c) WW
 ACC NR: AP6002341 (N) SOURCE CODE: UR/0198/55/001/012/0101/0106

AUTHOR: Yemets, Yu. P. (Kiev)

ORG: Institute of Electrodynamics, AN UkrSSR (Institut elektrodinamiki AN UkrSSR)

TITLE: Stationary flow of a viscous incompressible fluid with anisotropic electroconductivity in a coaxial channel

SOURCE: Prikladnaya mekhanika, v. 1, no. 12, 1965, 101-106

TOPIC TAGS: hydrodynamics, rocketry, gas dynamics, Hartman number, Hall effect, magnetohydrodynamics

ABSTRACT: Two cases of coaxial flow in a channel with electroconductive walls are studied. Analysis is made of the simultaneous effect of viscosity and of the Hall effect on the distribution of stream density, velocity, and the energy effectiveness of the channel. The fluid enters the channel radially with initial velocity v_0 and pressure p_0 . The condition $|R_m| = 4\pi\sigma v_0 / c^2 \ll 1$ is assumed. The outermost magnetic field has a unit component directed along the axis of the cylinders $B_z = B_0 f(r/r_1)$, where the function $f(r/r_1)$ determines the law of variation of the magnetic field

Card 1/3

L 14710-66

ACC NR: AP6002341

along a radius. Consideration of the equations of motion, Ohm's law, and conditions of symmetry leads to the system

$$qv_r \frac{dv_r}{dr} - q \frac{v_\theta^2}{r} = -\frac{dp}{dr} + \frac{1}{c} j_\theta B_z;$$

$$qv_r \frac{dv_\theta}{dr} + q \frac{v_r v_\theta}{r} = -\frac{1}{c} j_r B_z + \eta \left(\frac{d^2 v_\theta}{dr^2} + \frac{1}{r} \frac{dv_\theta}{dr} - \frac{v_\theta}{r^2} \right);$$

$$j_r = \frac{\sigma}{1 + \omega^2 \tau^2} \left(-\frac{d\varphi}{dr} + \frac{1}{c} v_\theta B_z + \frac{\omega \tau}{c} v_r B_\theta \right);$$

$$j_\theta = \frac{\sigma}{1 + \omega^2 \tau^2} \left(-\omega \tau \frac{d\varphi}{dr} + \frac{\omega \tau}{c} v_r B_z - \frac{1}{c} v_\theta B_r \right);$$

Dimensionless variables and parameters are introduced

$$\xi = \frac{r}{r_1}; \quad \alpha = \frac{r_1}{r_2} \quad (0 < \alpha < 1); \quad u = \frac{v_r}{v_0}; \quad v = \frac{v_\theta}{v_0};$$

$$l_r = \frac{j_r c}{\sigma v_0 B_0}; \quad l_\theta = \frac{j_\theta c}{\sigma v_0 B_0}; \quad \Phi = \frac{q c}{v_0 B_0 r_1}; \quad R = \frac{q c r_1}{\eta};$$

$$G^2 = \frac{\sigma B_0^2 r_1^2}{c^2 \eta}; \quad S = \frac{\sigma B_0^2 r_1}{c^2 q v_0}; \quad \omega_0 \tau_0 = \frac{e B_0 \tau_0}{m c};$$

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ACC NR: AP6002341

3

where r_1 and r_2 are the radii of the inner and outer cylinders; v_r and v_θ are velocity components; j_r and j_θ are stream flow components; ϕ is the electrostatic potential; R is Reynolds' number; G is Hartman's number; S is Stewart's number; w_0 τ_0 is Hall's parameter; ρ is the fluid density; η its viscosity, σ its conductivity. The physical properties of the fluid are considered constant. The azimuthal velocity is given by the Euler equation which is solved with the use of flow component variables. The effect of viscosity and anisotropy of conductivity are evaluated by means of the relationship between the dimensionless parameters of Hartman, Stewart, and Hall. The problem has an application to the theory of magnetohydrodynamic energy transformers. Orig. art. has: 28 equations and 3 figures.

SUB CODE: 20, 13/ ^{1, 4, 5} SUBM DATE: 14May65/ ORIG REF: 004/ OTH REF: 002

BVK
Card 3/3

YEMTSEV, B.T., kand. tekhn. nauk, dotsent

Slowing down of open currents. Izv. vys. ucheb. zav.; energ.
7 no.7:74-79 J1 '64 (MIRA 17:8)

1. Moskovskiy ordena Lenina energeticheskiy institut. Pred-
stavlena kafedroy gidravliki.

AUTHORS: Yemifov, Ye. A., Yerusalimchik, I. G. SOV/76-32-9-6/46

TITLE: A Study of the Hydrogen Overvoltage on Germanium (Issledovaniye perenapryazheniya vodoroda na germanii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 9, pp 1967 - 1970 (USSR)

ABSTRACT: The authors investigated the deposition of hydrogen on germanium from a 0,1 N solution of HCl at 20°. The polarization curves for current densities between 10^{-5} and 10^{-1} A/cm² were drawn (Figs 1-4). In addition to the pure hydrochloric acid solution (polarization curves in figure 1) the authors employed hydrochloric acid solutions with the following compounds added: sodium citrate (polarization curve in figure 2); tetraethyl ammonium iodide (polarization curve in figure 3); and octyl alcohol (polarization curve in figure 4). The authors found that the overvoltage of hydrogen on germanium is high, lying between -0,5 and -1,2 V., and that at current densities of 10^{-5} to 10^{-2} and 10^{-2} to 10^{-1} the overvoltage follows the equations: $\eta = 0,97 + 0,12 \lg I$

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A Study of the Hydrogen Overvoltage on Germanium

SOV/76-32-9-6/46

and $\eta = 1,33 + 0,12 \lg I$ (I is the current density in amperes per quarter centimeter). The kind of conductivity of the germanium cathode has no influence on the deposition of the hydrogen (Fig 1). All results show that the electro-chemical deposition of hydrogen on germanium takes place according to a mechanism of delayed discharge; this conclusion agrees completely with the theory of A.N.Frumkin (Ref 5). There are 4 figures and 10 references, 8 of which are Soviet.

SUBMITTED: March 27, 1957

Card 2/2

YEMILOV, G. A.

23339. Avtomatisatsiya zhlopkoprayadil'nogo proizvodstva, Tekstil. Prom-St',
1949, No. 6, c. 17-18.

SO: LETOPIS' NO. 31, 1949

YEMIN, A.G.

Concerning the degree of mechanization. Tekst.prom.
23 no.1:32-34 Ja '63. (MIRA 16:2)

1. Rukovoditel' gruppy spetsial'nogo konstruktorskogo
byuro tekstil'noy promyshlennosti Leningradskogo soveta
narodnogo khozyaystva.

(Machinery in industry)
(Textile industry)

YEMIN, N.

"Collection of accounting problems in sections of the national
economy." Reviewed by N.Emin. Bukhg.uchet 14 no.11:55-57 N '57.
(MIRA 10:11)

(Accounting--Study and teaching)

YEMIN, N.

Cooperation between the central accounting office of a regional
economic council and the Department of Accounting. Bukhg. uchet
15 no.2:29-33 7 '58. (MIRA 11:3)

1. Starshiy prepodavatel' kafedry ucheta Finansovo-ekonomicheskogo
instituta, Rostov-na-Donu.
(Rostov Province--Accounting)

YEMIN, O.N.

STROHKIN, Boris Sergeyevich, akademik; KAZANDZHAN, Pogos Karapetovich;
ALEKSEYEV, Lev Petrovich; GOVOROV, Aleksandr Nikolayevich; ~~YEMIN, O.N.~~
~~YEMIN, O.N.~~ FEDOROV, Roman Mironovich; DMITRIYEVSKIY, V.I.;
professor, doktor tekhnicheskikh nauk, retsenzent; YEMIN, O.N.,
kandidat tekhnicheskikh nauk, redaktor; BOGOMOLOVA, M.F., izdatel'-
skiy redaktor; ZUDAKIN, I.M., tekhnicheskikh redaktor

[A theory of jet engines; turbomachines] Teoriya reaktivnykh dvigatelei;
lopatochnye mashiny. Pod red. B.S.Stechkina. Moskva, Gos. izd-vo obor.
promyshl., 1956. 548 p. (MLR 10:1)
(Turbomachines)

71-1411, 6, 14
CHERKASOV, B.A., kandidat tekhnicheskikh nauk; YEMIN, O.N., kandidat
tekhnicheskikh nauk.

Analytical calculation of gas turbine characteristics with account
taken of losses derived by plane cascade tests. Trudy MAI no.68:5-11
'56. (MIRA 10:1)

(Gas turbines--Aerodynamics)

YEMIN, O.N. , kandidat tekhnicheskikh nauk.

Secondary flow and losses in fluid flow in a turn. Trudy MAI no.68:82-
104 '56. (MIRA 10:1)

(Fluid dynamics) (Gas turbines--Aerodynamics)

YEMIN, O.N., kandidat tekhnicheskikh nauk.

Critical pressure and operating limits in a gas turbine stage.

Trudy MAI no.82:30-48 '57. (MIRA 10:10)

(Gas turbines)

YEMIN, O.N., kandidat tekhnicheskikh nauk.

Determining the characteristics of mass produced turbojets with
air outlets for use in making aerodynamic studies. Trudy MAI
no.82:96-105 '57. (MIRA 10:10)
(Gas turbines) (Aerodynamics)

PHASE I BOOK EXPLOITATION 971

Kholshchevnikov, Konstantin Vasil'yevich and Yemin, Oleg Naumovich

Vybor parametrov i raschat gazovoy turbiny; uchebnoye posobiye (Selection of Parameters and Design of Gas Turbines; a Textbook) Moscow, Oborongiz, 1958. 103 p. 6,000 copies printed.

Sponsoring Agency: Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze.

Ed.: Pashkin, M.A., Candidate of Technical Sciences; Ed. of Publishing House: Morozova, P.B.; Tech. Ed.: Garnukhina, L.A.

PURPOSE: This book is intended for mechanical engineering students.

COVERAGE: This book is based on the lectures presented to students of the Moscow Aviation Institute on the design of gas turbines. Various established principles and examples of gas turbine design are presented. The author thanks the following students for their contribution in preparing examples of design: S.Kh. Khorvin, Yu.M. Styazhkin, V.A. Gorelov, and I.S. Mosevitskiy. There are 9 references, all Soviet.

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Selection of Parameters and Design (Cont.)

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68934

S/147/59/000/04/011/020
E022/E435

10.2000

AUTHORS: Yemin, O.N. and Bykov, N.N.

TITLE: Radial Distribution of Work in the Turbine When Working Under Off-Design Conditions ¹³

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1959, Nr 4, pp 95-101 (USSR)

ABSTRACT: Gas turbines of today are designed in such a way that when working at design conditions, the work performed by one kilogram of the gas is the same at all radii, ie $H_{Tu} = \text{const}$. In that case the difference between the average work of the turbine as a whole unit and the value of work of each elementary stage is determined by the secondary losses (see Ref 1) and is given by Eq (1) where δ_{RK} is the coefficient of the secondary losses (under design conditions $\delta_{RK} = 0.97$). Comparison of the experimental characteristics with the corresponding theoretical values (including the losses as determined by two-dimensional tests of cascades) shows (Ref 2) that under the off design conditions, the deviation of the average work of a stage from its value for an elementary stage at the mean diameter increases

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Radial Distribution of Work in the Turbine When Working Under Off-Design Conditions

(ie δ_{PK} diminishes). This may be caused either by increased secondary losses or by redistribution of work in the radial direction. The object of this work was to investigate the effect of non-uniform radial distribution of work in the intermittent part of the turbine and to compare the average values with those at the mean radius of the cascade. In the analysis the following assumptions were made: a) over the whole range of conditions (ie under design and off-design conditions) the gas moves along cylindrical surfaces; b) the motion is axi-symmetrical; c) at the exit from the guide vanes and from the rotor cascades over the whole range of working conditions, the fluid angles are the same as the effective angles of the blades, ie $\alpha_1(r)$ and $\beta_2(r)$ are the same functions of the radius. Since the solution of the problem with an arbitrary shape of the profile is difficult, the analysis was applied only for the case when $\alpha_1 = \text{const}$. The relevant equations of motion are then given by Eq (2) and (3). ✓

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Using relations between the parameters at any arbitrary radius and those at the mean radius of the turbine and introducing the factor

$$z = \frac{Q_r}{Q_{r\phi_{cp}}}$$

where Q_r is the total (mean) rate of flow of the gas through the stage and $Q_{r\phi_{cp}}$ is the corresponding rate of flow based on the mean radius conditions, then z will be the correction factor for the case when only the mean radius parameters are known. As shown in Ref 3, if the profiles are chosen so as to preserve the uniformity of the circulation, then $z = 1$, but for other cases its value varies (see Ref 4). Fig 1 shows its variation (taken from Ref 4), when $\alpha_1 \approx 19^\circ$, plotted against

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$$\frac{r_{periphery}}{r_{root}} = a \quad \text{and} \quad \chi = \frac{D_{mean}}{h}$$

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for various values of λ_{1cp} (ie λ_1 mean). It is seen from the figure that as λ_1 mean increases (α_1 being constant), the total rate of flow differs more and more from the rate of flow at the mean radius. Factor z is now used to determine the averaged rate of work of the turbine. Using Eq (3) and the Euler equation (Eq (4)) the values of C_{2a} and C_{2u} may be obtained (as shown in Ref 1), hence Eq (5) follows. Solution of this equation for β_2 is very cumbersome and difficult. However, it can be checked from the graphs in Fig 2 (obtained for two different types of turbines: 1 - turbine AL; 2 - turbine VK) that the actual relation for $\tan \beta_2$ may be approximated as being between the graphs $r \cdot \tan \beta_2 = \text{const}$ and $\tan \beta_2 = \text{const}$. Since direct solution of the simultaneous system of Eq (3), (4) and (5) in their original form is rather cumbersome, Eq (3) and (4) are transformed as shown at the bottom of page 97, so that Eq (8) is obtained. Differentiating Eq (8) with respect

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to r and using Eq (7), Eq (9) is obtained.
Two variants are then considered:

- 1) $\tan^2 \beta_2 = D^* = \text{const}$ leading to Eq (10)
- 2) $\frac{\tan \beta_2}{\tan \beta_{2cp}} = \frac{r_{cp}}{r}$ which yields Eq (11).

Both these relations are thus the differential equations for the dependence of y on r and they show that the distribution of the rate of work (with the assumed above profile shape) depends only on λ_{1cp} and $\lambda_{u_{cp}}$. Unfortunately these equations cannot be integrated directly; they were evaluated by graphico-analytical method of Euler-Cochy in the following way. First, the magnitudes of the work at the mean radius were determined for different conditions using the method shown in Ref 5 and hence

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by Eq (8), the value of y_{cp} was obtained. Substituting the values of r_{cp} and y_{cp} in Eq (10) or (11), the slope of the tangent is obtained at that radius, which is considered as the starting point. Along this tangent two new values of r are chosen (one on each side of r_{cp}) and hence the corresponding values of y were obtained. These were used again in Eq (10) or (11) and two more values of the slope of the tangent thus were found. The process was repeated until a sufficient number of points were evaluated giving the approximate solution of the differential equations. The graphs were then used to evaluate the distribution of work as given by Eq (8); this is shown in Fig 3 for various values of λ . Circles represent the case $\beta_2 = \text{const}$ and triangles refer to the case $(\tan \beta_2) \cdot r = \text{const}$. It is seen from the graphs that the two cases give results which vary very little. If the term "the theoretical averaged

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work of a stage" is used to denote the work which multiplied by the actual rate of flow of the gas through the stage gives the work equal to the sum of the works of all the elementary stages (with the usual assumption for the profiles of $\alpha_1 = \text{const}$), then it can be determined from Eq (12), by means of graphical integration, z being the correction factor for evaluating the total rate of flow of gas through a stage from that flowing at the mean diameter. The coefficient Φ which represents the ratio of the theoretical averaged work (H_{Tuocp}) and the work of the elementary stage at the mean radius (H_{Tucp}) is now introduced. It varies with the conditions under which the turbine works, as shown in Fig 4 (the figure applies to the case when $D_{cp}/h \approx 6$). These results are compared now with the experimental data obtained in Ref 2. As the conditions of work of the turbine deviate from the design conditions (eg with $\lambda_u = \text{const}$ and $\lambda_1 = 0.7 \lambda_1 \text{ design}$) the shaft horse power differs by 4

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Radial Distribution of Work in the Turbine When Working Under
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some 9 to 10% from the power of the elementary stage at the mean radius. The effect of the redistribution of the work and of the rate of flow in the radial direction, as seen from Fig 4, accounts for some 2% for the turbine with $D_{cp}/h \approx 6$. The remaining 7 to 8% is the result of the radial gap and other secondary effects. The variation of the coefficient ϕ will be more pronounced for turbines with longer blades. Thus the non-uniform distribution of the work and of the gas flow appears to be one of the main factors which results in the power of the whole stage being different from the power of an elementary stage at its mean radius. There are 4 figures and 5 Soviet references.

ASSOCIATION: Kafedra AD-1 Moskovskiy aviatsionnyy institut
(Chair AD-1, Moscow Aviation Institute)

SUBMITTED: July 13, 1959

Card 8/8

BYKOV, N.N., kand.tekh.nauk; YEMIN, O.N., kand.tekhn.nauk.; CHERKASOV, B.A.,
kand.tekhn.nauk.

Selection of the parameters of a divided-flow gas turbine and effect
of the degree of flow division on the characteristics of the turbine.
Izv.vys.ucheb.zav.; mashinostr. no.2:98-110 '60. (MIRA 14:4)

1. Moskovskiy aviatsionnyy institut.
(Gas turbines—Aerodynamics)

YEMIN, O.N.; ROZANOV, I.G.

Using nomograms in designing low-powered turbines. Izv. vys.
ucheb. zav.; av.tekh. 4 no.2:94-102 '61. (MIRA 14:3)

1. Moskovskiy aviatsionnyy institut, kafedra 201.
(Gas turbines—Design and construction)

BR
PHASE I BOOK EXPLOITATION

SOV/6085

Yemin, Oleg Naumovich

Vybor parametrov i raschet osevykh aktivnykh turbin dlya privoda agregatov; uchebnoye posobiye (Selection of Parameters and Calculation of Axial Reaction Turbines for Auxiliary-Equipment Drives; Textbook). Moscow, Oborongiz, 1962. 49 p. 4700 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy ordena Lenina aviatsionnyy institut imeni Sergo Ordzhonikidze.

Ed. of Publishing House: V. M. Tokar'; Tech. Ed.: A. Ya. Novik; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This textbook is intended for advanced students in aviation schools of higher education. It may also be useful to engineers designing small-size turbines.

Card 1/3

Selection of Parameters (Cont.)

80V/6085

COVERAGE: Calculations necessary in designing axial-flow air, gas, and water-injected gas turbines for driving accessories of jet aircraft are presented. Introductory theoretical problems are discussed. Particular attention is focused on methods of selecting parameters to meet specific requirements and on the calculation of optimum weights, size characteristics, and efficiencies of the turbines. A list of symbols used in the calculations is included. There are 13 references: 12 Soviet and 1 English.

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Bibliography

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AVAILABLE: Library of Congress

SUBJECT: Mechanical Engineering

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10/1/62

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A. J. A. J. A. J.

24 - 25 DE

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (○), 10⁷ cells/ml (□), 10⁸ cells/ml (△), and 10⁹ cells/ml (◇). The error bars represent the standard deviation of three independent experiments.

ACC NR: AP5026281

SOURCE CODE: UR/0229/65/000/009/0029/0032

AUTHOR: Bykov, N. N.; D'yachenko, B. K.; Yemin, O. N. 44.5

ORG: none

TITLE: The selection of a supersonic partial admission turbine 42
B

SOURCE: Sudostroyeniye, no. 9, 1965, 29-32

TOPIC TAGS: turbine, turbine design, cold gas turbine, fuel pump

ABSTRACT: Supersonic partial-admission turbines fed with high-pressure air and intended for driving small auxiliary units having outputs up to 100 kw were tested and analyzed to determine optimum design and operating conditions. The tests were carried out with a two-ring radial turbine equipped with one supersonic nozzle and designed for operation at an expansion ratio of 20, an air inlet temperature of 273K, a speed of 5000 rpm, and an output of 15 kw. The results showed that turbines operated at a small admission ratio and a large expansion ratio should be designed as a single-ring turbine with recirculation of the working fluid. Such a turbine with an admission ratio of 0.15 has the same efficiency as a two-ring turbine, which means that its efficiency is 15-25% higher than that of a conventional single-ring turbine. A single-ring turbine with recirculation is more efficient than a double-ring turbine at medium admission ratios (0.15-0.18) but less efficient at lower admission ratios. Orig. art. has: 5 figures. [PV]

Card 1/L

UDC: 621.431.74:621.438

L 2143-56

ACC NR: AP5026281

SUB CODE: PR/ SUBM DATE: 00 ./ ORIG REF: 006/ OTH REF: 000/ ATD PRESS: 4/22

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Card 2/2

L 47170-66 EWT(d)/EWT(1)/EWP(m)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k) IJP(c).

ACC NR: AP6032184 JD/WW/EM

SOURCE CODE: UR/0096/66/000/010/0052/0056

AUTHOR: Bykov, N. N. (Candidate of technical sciences); Yemin, O. N. (Candidate of technical sciences)

ORG: Moscow Aviation Institute (Moskovskiy aviatsionnyy institut)

TITLE: Investigation of a swirling gas flow in a convergent nozzle

SOURCE: Teploenergetika, no. 10, 1966, 52-56

TOPIC TAGS: GAS FLOW convergent nozzle, nozzle flow, radial flow turbine, swirling injector,

ABSTRACT: A theoretical and experimental study has been conducted of a swirling compressible flow in the exit duct of a radial-flow turbine. Similar flows also occur in some axial turbines, centrifugal injectors, and other devices. In the theoretical analysis, the exit duct represented a convergent nozzle in which the swirling flow was produced by injecting air into the nozzle at an angle. Using the energy balance equation and introducing a geometric parameter K, an approximate formula is derived for calculating the flow discharge coefficient as a function of K and the total pressure drop. The experimental part of the investigation consisted of testing several nozzles with exit radii of 70 and 46 mm. Measurements were made of the static and total pressures at the inlet, and of the flow rate. The obtained results show that with an increase in the total pressure drop, the flow rate at first rapidly increases. When the pressure drop exceeds 1.5, the flow rate increases more slowly. The

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UDC: 62.225.282.2.001.5

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ACC NR: AP6032184

theoretical and experimental results were found to be in good agreement. However, a reduction in the nozzle exit radius ($r \leq 36$ mm) results in considerable discrepancy between the theoretical and experimental data. This discrepancy is due to the generation of a supersonic flow at the exit; under this condition, the assumptions used become invalid. Orig. art. has: 18 formulas and 7 figures. [AS]

SUB CODE: 21/ SUBM DATE: none/ ATD PRESS: 5090

Card 2/2 blg

YEMIN, O.N.; BYKOV, N.N.

Effect of thermodynamic properties of the working medium on the
selection of optimum parameters for a gas turbine. Izv. vys.
ucheb. zav.; av. tekhn. 8 no.2:65-75 '65. (MIRA 18:5)

KUL'KOVA, N.V.; YEMKIN, M.I.

Determination of the free energy of oxygen in a surface layer
of oxidation catalysts. Part 2. Zhur.fiz.khim. 36 no.8:1731-
1734 Ag '62. (MIRA 15:8)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.
(Oxygen) (Adsorption) (Catalysts)

YEMKOV, A.A.; MIKHAYLOVSKIY, I.Ya.

Device for plotting polarization curves. Ziv.lab. 31 no.3:388-
389 '65. (MIRA 18:12)

1. Nauchno-issledovatel'skiy institut po transportu i
khraneniyu nefi i nefteproduktov.

YEMKOV, A.A.

Comparative method for evaluating the state of the insulation coating of a cathode-protected pipeline. Transp. i khran. nefti i nefteprod. no.11:5-7 '64. (MIRA 18:1)

1. Nauchno-issledovatel'skiy institut po transportu i khraneniyu nefti i nefteproduktov.

YEMKOV, A.A.; MIKHAYLOVSKIY, I.Ya.

Investigating the stationary potential of steel in the presence
of defects in an insulating film. Transp. i khran. nefti i nefteprod.
no.6:7-9 '65. (MIRA 18:8)

1. Nauchno-issledovatel'skiy institut po transportu i khraneniyu
nefti i nefteproduktov.

KUZNETSOV, M.P.; REKHLIS, G.N.; POLOVSHENKO, I.G.; KRANNIK, T.A.; YEMLIK, B.I.;
BAPTIZMANSKIY, V.I.; SOROCHAN, N.G.; PLETAYEV, B.L.

Research carried on at the Dzerzhinskii Plant. Stal' 16 no.8:749-750
Ag '56. (MIRA 9:10)
(Dneprodzerzhinsk--Metallurgy)

AUTHORS: Gasik, M. I., Yemlin, B. I.

S07/32-24-10-16/70

TITLE: A Rapid Analysis of Carbon-Free and Carbon-Low Ferrochromium for Silicon Content According to the T.E.M.F. Method (Thermoelectromotive Force Method) (Ekspress-analiz bezuglerodistogo i malouglerodistogo ferrokhroma na soderzhaniye kremniya metodom T.E.D.S.)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1218 - 1219 (USSR)

ABSTRACT: To obtain the maximum efficiency of furnaces that fuse the sorts of ferrochromium mentioned in the title according to the silicothermal method the silicon content in the metal after the treatment is to be kept at 1,0 - 1,5%. The method of determination for silicon worked out in the present case is based on the dependence of the thermoelectromotive force of the pair alloy - thermoelectrode up on the chemical composition of the alloy, up on the temperature, and up on other factors (Ref 1). For the analysis a device described in the literature (Ref 2) was used. The temperature of the

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hot thermoelectrode was measured by means of a mercury thermometer with an accuracy of $\pm 1^\circ$. A diagram showing the T.E.M.F. as a function of the silicon content at three different temperatures is reproduced in the paper. The inclination of the line shows that a temperature of 300° is most suitable for rapid analysis. The change in carbon content in the metal for every furnace varies only little; in the case of ferrochromium of the type Khr 0000 it amounts to 0,06-0,1%, while in the case of fusion furnaces for the types Khr 00 and Khr 0 it is 0,11-0,2%. There are 1 figure and 5 references, which are Soviet.

ASSOCIATION: Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute)

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S/764/61/000/000/003/003

AUTHORS: Khitrik, S. I., Doctor of Technical Sciences; Volkov, V. F.,
Nikolayev, V. I., Engineers; Yem, A. P., Candidate of Technical
Sciences; Gasik, M. I., Assistant; Yemlin, B. I., Engineer.

TITLE: Industrial experience with the vacuum treatment of iron alloys.

SOURCE: Razvitiye ferrosplavnoy promyshlennosti SSSR. Ed. by N. M. Dekhanov
and others. Kiyev, Gostekhizdat USSR, 1961, 231-240.

TEXT: The paper describes experimental vacuum techniques applied by the
School of Electrometallurgy of the Dnepropetrovsk Institute of Metallurgy, jointly
with the Zaporzh'ye Iron-Alloys Plant, for the making of dense ingots free of gas
blowholes of C-free ferrochrome and metallic Mn. The work was begun in 1953,
and the present paper describes the improved vacuum chamber and pumping system
developed since 1955 and 1956 (schematic cross-section shown). The vacuum
chamber comprises a metallic container with an internal lining of a single row of
firebrick. The removable cover is water-cooled and, while not protected by a lin-
ing, is shielded from the heat radiation of the liquid metal by means of a sheet-
metal screen. The pumping plant, which is connected to the chamber by means of
a large-diam conduit, is placed at a distance of 25 m from the chamber. A multiple-

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unit pumping system is used. With the use of a single PMK-4 (RMK-4) pump, the residual pressure attained is 30-40 mm Hg; the additional operation of 2 BH-6F (VN-6G) pumps reduces the pressure to 8-15 mm Hg after 7-9 min. The chemical composition of the metal after various holds in the ladle prior to vacuum treatment and for various durations of the vacuum treatment is shown, and it is established that the Cr_2O_3 content in the slags decreases on the mean by 24% and the FeO content decreases by 20%. This decrease is attributed to a process of reduction of these oxides by Si and also by the SiO and CO oxides which form during the oxidation of Si and C in the metal. The beneficial effects of the vacuum treatment are also interpreted with respect to the decarburization of ferrochrome and others. The results of this work have been brought into practical operation at the Zaporozh'ye Iron-Alloys Plant. In March 1957 a vacuum equipment was also established at Plant No. 3 for the vacuum treatment of metallic Mn. Whereas in 1957 only 3% of the total ferrochrome production was vacuum-treated, in 1958 nearly 50% of the total ferrochrome production was vacuum-treated. A further study of the favorable effect of vacuum treatment on the quality of ferrochrome, ferromanganese, ferrosilicon, silicon, manganese, and silicochrome is recommended. It is also important to study the effect of vacuum treatment of iron alloys on the quality of the alloyed steel. The experience of the Zaporozh'ye Iron-Alloys Plant substantiates the technical and economic advantages of a broad-scale vacuum treatment of ferrochrome and metallic

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Mn at other plants also. There are 2 figures, 4 tables, and 8 references (6 Russian-language Soviet and 2 English-language originals: Evans, J., Problems of Modern Metallurgy, no.1, 1954; Sally, A.N., Brandes, E.A., Mitchell, C.V., J. Inst. Met., v.8, 1953; the first of these in Russian translation).

ASSOCIATION:

Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute) and Zaporozhskiy Zavod Ferrosplavov (Zaporozh'ye Iron-Alloys Plant).

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Using a thermoelectric silicometer in the making of transformer
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